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Automatiska elektriska styr- och reglerdon – Del 2-6: Särskilda fordringar på automatiska tryckkännande reglerdon, inklusive mekaniska fordringar

*Automatic electrical controls –
Part 2-6: Particular requirements for automatic electrical
pressure sensing controls including mechanical requirements*

Som svensk standard gäller europastandarden EN 60730-2-6:2016. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60730-2-6:2016.

Nationellt förord

Europastandarden EN 60730-2-6:2016

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60730-2-6, Third edition, 2015 - Automatic electrical controls - Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60730-1, utgåva 5, 2016.

Tidigare fastställd svensk standard SS-EN 60730-2-6, utgåva 2, 2009, gäller ej fr o m 2019-02-26.

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

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SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

SEK Svensk Elstandard

Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

English Version

**Automatic electrical controls - Part 2-6: Particular requirements
for automatic electrical pressure sensing controls including
mechanical requirements
(IEC 60730-2-6:2015)**

Dispositifs de commande électrique automatiques -
Partie 2-6: Exigences particulières pour les dispositifs de
commande électrique automatiques sensibles à la pression
y compris les exigences mécaniques
(IEC 60730-2-6:2015)

Automatische elektrische Regel- und Steuergeräte -
Teil 2-6: Besondere Anforderungen an automatische
elektrische Druckregel- und Steuergeräte einschließlich
mechanischer Anforderungen
(IEC 60730-2-6:2015)

This European Standard was approved by CENELEC on 2015-05-27. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

The text of document 72/980/FDIS, future edition 3 of IEC 60730-2-6, prepared by IEC/TC 72 "Automatic electrical controls" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60730-2-6:2016.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-08-26
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-02-26

This document supersedes EN 60730-2-6:2008.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive 2004/108/EC, see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 60730-2-6:2015 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated :

IEC 60079	NOTE	Harmonized in EN 60079 series (modified).
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Annex ZZ
(informative)

Coverage of Essential Requirements of EU Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant essential requirements as given in Article 1 of Annex I of the EU Directive EMC (2004/108/EC).

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

AUTOMATIC ELECTRICAL CONTROLS –**Part 2-6: Particular requirements for automatic electrical
pressure sensing controls including mechanical requirements**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60730-2-6 has been prepared IEC technical committee 72: Automatic electrical controls.

This third edition cancels and replaces the second edition published in 2007. This edition constitutes a technical revision. This edition includes the following significant technical changes with respect to the previous edition:

- a) aligns the text with IEC 60730-1, Edition 5;
- b) modifies requirements for Class B control function (H.27.1.2.2);
- c) modifies requirements for Class C control function (H.27.1.2.3);
- d) modifies requirements for faults during lock-out or safety- shut-down.

The text of this standard is based on the following documents:

FDIS	Report on voting
72/980/FDIS	72/992/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This part 2 is intended to be used in conjunction with IEC 60730-1. It was established on the basis of the fifth edition (2013) of that publication. Consideration may be given to future editions of, or amendments to, IEC 60730-1.

This part 2 supplements or modifies the corresponding clauses in IEC 60730-1 so as to convert that publication into the IEC standard: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements.

Where this part 2 states "addition", "modification", or "replacement", the relevant requirement, test specification or explanatory matter in part 1 should be adapted accordingly.

Where no change is necessary, this part 2 indicates that the relevant clause or subclause applies.

In the development of a fully international standard, it has been necessary to take into consideration the differing requirements resulting from practical experience in various parts of the world and to recognize the variation in national electrical systems and wiring rules.

The "in some countries" notes regarding differing national practices are contained in the following subclauses:

10.1.4

15.1.101

18.101

Annex CC

In this publication:

- 1) The following print types are used:
 - Requirements proper: in roman type;
 - *Test specifications: in italic type;*
 - Notes; in small roman type;
 - Words defined in Clause 2: **bold**.
- 2) Subclauses, notes, tables and figures which are additional to those in part 1 are numbered starting from 101, additional annexes are lettered AA, BB, etc.

A list of all parts of the IEC 60730 series, published under the title *Automatic electrical controls* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

AUTOMATIC ELECTRICAL CONTROLS –

Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements

1 Scope and normative references

This clause of Part 1 is applicable except as follows:

1.1 Scope

Replacement:

This part of IEC 60730 applies to automatic electrical pressure **sensing controls** with a minimum gauge pressure rating of –60 kPa and a maximum gauge pressure rating of 4,2 MPa, for use in, on or in association with, equipment. The equipment may use electricity, gas, oil, solid fuel, solar thermal energy, etc. or a combination thereof.

NOTE Throughout this standard, the word “equipment” includes “appliances” and “control system”.

This standard is also applicable to individual pressure **sensing controls** utilized as part of a **control system** or pressure **sensing controls** which are mechanically integral with multi-functional controls having non-electrical outputs.

Automatic electrical pressure **sensing controls** for equipment used by the public, such as equipment intended to be used by laymen in shops, in light industry and on farms, are within the scope of this standard.

This standard does not apply to pressure **sensing controls** intended exclusively for industrial process applications unless explicitly mentioned in the relevant equipment standard.

1.1.1 *Replacement:*

This standard applies to inherent safety, **operating values**, **operating sequences** where such are associated with equipment protection, and to the testing of automatic electrical pressure **sensing controls** used in, on or in association with equipment.

This standard is also applicable to the functional safety of low complexity safety related pressure **sensing controls** and **systems**.

This standard is also applicable to pressure **sensing controls** for appliances within the scope of IEC 60335-1.

See also Annex J.

1.1.2 *Addition:*

This standard applies to automatic **electrical controls**, mechanically or electrically operated, responsive to or controlling a pressure or vacuum.

1.1.3 Not applicable.

1.1.4 *Replacement:*

This standard applies to **manual controls** when such are electrically and/or mechanically integral with pressure **sensing controls**.

NOTE Requirements for manual switches not forming part of an **automatic control** are contained in IEC 61058-1.

1.1.5

Replacement:

This standard applies to a.c. or d.c. powered pressure **sensing controls** with a rated voltage not exceeding 690 V a.c. or 600 V d.c.

1.1.6

Replacement:

This standard does not take into account the **response value** of an **automatic action** of a pressure **sensing control**, if such a **response value** is dependent upon the method of mounting it in the equipment. Where a **response value** is of significant purpose for the protection of the **user**, or surroundings, the value defined in the appropriate equipment standard or as determined by the manufacturer shall apply.

1.1.7

Replacement:

This standard applies also to pressure **sensing controls** incorporating **electronic devices**, requirements for which are contained in Annex H.

This standard applies also to pressure **sensing controls** using NTC or PTC **thermistors**, requirements for which are contained in Annex J.

Additional subclauses:

1.1.101 This standard contains requirements for electrical features of pressure **sensing controls** and requirements for mechanical features that affect their intended **operation**.

NOTE Subclause 18.101, as it pertains to gas and/or oil **controls**, is under consideration pending review or revision of ISO 22967, ISO 22968 and ISO 23550 series, if applicable.

1.1.102 In general, these pressure **sensing controls** are integrated or incorporated with the equipment or are intended to be integrated in, or on the equipment. This standard also covers these **controls** when they are independently mounted. **In-line cord controls** are not covered by this standard.